

TACHYARRHYTHMIA DETECTION AND DISCRIMINATION BASED ON CURVATURE PARAMETERS

Abstract

5 Estimating a frequency of a sampled cardiac rhythm signal and classifying the
rhythm. The received signal is sampled and transformed into a curvature series. A lobe
in the curvature series corresponds to a characteristic point in the sampled series.
Characteristic points are selected based on a time of a lobe in the curvature series and,
in one embodiment, an amplitude of the signal at the time of the lobe. A frequency of
the sampled series is estimated by autocorrelating a function of the series of the
10 characteristic points. In one embodiment, the function is a time difference function.
The rhythm is classified by plotting the timewise proximity of characteristic points
derived from an atrial signal with characteristic points derived from a ventricular signal.
Regions of the plot are associated with a particular rhythm and the grouping of the data
corresponds to the classification.

"Express Mail" mailing label number: EV332571299US

Date of Deposit: June 27, 2003

This paper or fee is being deposited on the date indicated above with the United
States Postal Service pursuant to 37 CFR 1.10, and is addressed to the Mail Stop
Patent Application, Commissioner for Patents, P.O.Box 1450, Alexandria, VA
22313-1450.